

The opinion in support of the decision being entered today
is *not* binding precedent of the Board

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RAMESH NAGARAJAN

Appeal 2007-1306
Application 09/587,892¹
Technology Center 2600

Decided: July 30, 2007

Before: KENNETH W. HAIRSTON, JAY P. LUCAS, and
MARC S. HOFF, *Administrative Patent Judges.*

HOFF, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF CASE

Appellant appeals under 35 U.S.C. § 134 from a final rejection of claims 1-19. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

¹ Application filed June 6, 2000. The real party in interest is Lucent Technologies, Inc.

Appellant's invention relates to a method and apparatus for routing traffic between fiber optic network elements in order to provide protection against network failures. Rather than provide a fully redundant "dual-homed" network, as in the prior art, Appellant retains a copy of a signal at a particular network element, and routes the signal to an additional network element, which is coupled to a dual-homed network element, either directly or via another additional network element (Specification 3:13-21).

Claim 1 is exemplary:

1. A method of routing traffic between elements of a network so as to provide protection against network failures, the method comprising the steps of:

routing a given traffic demand from a first network element to a second network element; and

processing the traffic demand in the second network element such that a copy of a signal associated with the demand is at least one of: (i) retained at the second network element, while the signal is routed to at least one additional network element; and (ii) routed to at least one additional network element, while the signal is routed to at least one network element other than the additional network element;

wherein the second network element is coupled to a first dual-homed network element of a set of dual-homed network elements, either directly or via a given network element corresponding to said at least one network element other than the additional network element; and

wherein a given network element corresponding to said at least one additional network element is coupled to a second dual-homed network element of the set of dual-homed network elements, either directly or via another additional network element.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Claims 1-19 stand rejected under 35 U.S.C. § 103(a) as being obvious over Russ in view of Al-Salameh.

Appellant contends that the Examiner erred in holding the subject matter of claims 1-19 to be obvious, because Al-Salameh fails to teach the claim limitations that the Examiner concedes are not met by Russ, and because the Examiner failed to identify a cogent motivation for combining the references to achieve the instant invention. The Examiner contends that Al-Salameh teaches the claim limitations not found in Russ and the references would have motivated the person of ordinary skill in the art to make the combination.

Rather than repeat the arguments of Appellant or the Examiner, we make reference to the Briefs and the Answer for their respective details. Only those arguments actually made by Appellant have been considered in this decision. Arguments that Appellant could have made but chose not to make in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2004).²

² Appellant has not presented any substantive arguments directed separately to the patentability of the dependent claims or related claims in each group, except as will be noted in this opinion. In the absence of a separate argument with respect to those claims, they stand or fall with the representative independent claim. *See In re Young*, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991). *See also* 37 C.F.R. § 41.37(c)(1)(vii).

ISSUE

There are two principal issues in the appeal before us.

The first issue is whether the Examiner erred in holding that Al-Salameh teaches the claim limitations not present in Russ, specifically a fiber optic network such that “[a] second network element is coupled to a first dual-homed network element … either directly or via a given network element … other than the additional network element,” and that the additional network element “is coupled to a second dual-homed network element … either directly or via another additional network element” (Appellant’s claim 1).

The second issue is whether it was error for the Examiner to conclude that the person having ordinary skill in the art, being presented with the combined teachings of Russ and Al-Salameh, would have been motivated to modify Russ to incorporate the dual-homing network architecture of Al-Salameh.

FINDINGS OF FACT

The following Findings of Fact (FF) are shown by a preponderance of the evidence.

The Invention

1. Appellant invented a method and apparatus for routing traffic between elements of an optical fiber network so as to provide protection against network failures (Br. 2:20-21).

2. Appellant teaches that the prior-art “dual-homing” failure protection approach, which provides a fully redundant set of network elements to carry a fully redundant data transmission “demand,” may be

used to provide protection against network failures, but leads to excess network capacity and increased cost (Specification 2:15-25).

3. In Appellant's invention, a copy of a signal associated with a given network traffic demand is retained at a network element, while the signal is routed to an additional network element. Alternately, such a signal is routed to the additional network element, and also routed to at least one other network element (Specification 3:13-17). The "additional network element" and "at least one network element other than the additional network element" are each coupled to a respective dual-homed network element of a set of dual-homed network elements (Specification 3:15-21). Appellant discloses that this approach can provide the redundancy benefits of the prior art while using less network capacity, and therefore at lower cost (Specification 6:20-26 and 8:8-16).

Russ

4. Russ teaches a system and method for restoring communication between (at least) a pair of nodes in an optical fiber network (col. 2, ll. 33-35). After an alarm indicating the failure of a link between nodes is detected, one node sends a "flooding message" for each link on the span with a validated alarm, as part of a scheme to determine the shortest "restoration route" that avoids the now-broken link (col. 2, ll. 55-66). The flooding message is multicast by a "tandem node" to a multiplicity of other nodes (col. 10, ll. 8-17).

Al-Salameh

5. Al-Salameh teaches a multi-ring Synchronous Optical Network (SONET) architecture that provides a customer with a fully redundant dual-homing arrangement (col. 6, ll. 19-21).

PRINCIPLES OF LAW

In rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of establishing a *prima facie* case of obviousness. *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). The Examiner can satisfy this burden by showing some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *KSR Int'l. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007) (*citing In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)). Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the Appellant. *Piasecki*, 745 F.2d at 1472, 223 USPQ at 788. Thus, the Examiner must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the Examiner's conclusion.

ANALYSIS

Appellant argues that the Examiner has failed to make out a *prima facie* case of obviousness, because Al-Salameh does not teach the claim limitations conceded by the Examiner to be missing from Russ, i.e. that "the second network element is coupled to a first dual-homed network element ... either directly or via a given network element ... other than the additional network element," and that the additional network element "is coupled to a

second dual-homed network element ... either directly or via another additional network element" (Br. 5:19-23).

Appellant further argues that the Examiner has failed to identify a cogent motivation for combining the references (Br. 6:3-4). In Appellant's view, Al-Salameh merely suggests that it may be desirable to pass a block of information from one ring to another, but lacks any suggestion to pass a copied signal to a network element which is itself coupled to a dual-homed network element (Br. 6:28-7:6).

We agree with Appellant that the Examiner has failed to carry his burden of establishing a *prima facie* case of obviousness. Russ teaches making a copy of a signal (but only after a network fault has been detected), and passing the signal along to other network elements of a non-redundant network (FF 4). Al-Salameh teaches solving the problem of network faults by implementing a dual-homed network very similar to that characterized by Appellant as prior art (FF 5; see Appellant's Figure 1). Al-Salameh does not teach a (second) network element coupled to a first dual-homed network element of a set of dual-homed network elements, either directly or via a given network element corresponding to (said) at least one network element other than the additional network element, as required by claim 1. The Examiner correctly identifies gateway 20'₁ of Al-Salameh (Fig. 3) as a dual-homed network element (Answer 7:5). The Examiner fails to identify the "set of dual-homed network elements," recited in claim 1, of which gateway 20'₁ is but a single member. The Examiner then asserts that network element 16'_{m-4} of Al-Salameh (Fig. 3) corresponds to the "another additional network element" of the claim (Answer 7:8), and states that it is coupled to a second

dual-homed network element of the set of dual-homed network elements; however, the Examiner does not identify what in Al-Salameh corresponds to the second dual-homed network element, or to the set of dual-homed network elements. The Examiner refers the reader to column 6, lines 19-23 of Al-Salameh (Answer 7:11), which explains that the network 10' provides node 20' with a fully redundant dual-homing arrangement, but the Examiner does not explain what element(s) correspond to the second dual-homed network element, or to the set of network elements.

The Examiner argues that Appellant refers to language that is not present in the claims when Appellant suggests Russ and Al-Salameh fail to teach “coupling of a particular types [sic] of network elements with corresponding elements of a set of dual-homed network elements” (Answer 11:4-5). We agree with Appellant, however, who pointed out in the Reply Brief that such language is clearly recited in (at least) claim 1 (Reply Br. 1:23-2:1).

The Examiner further argues that the skilled artisan would have been motivated to combine Russ with Al-Salameh because Al-Salameh’s teaching of “a fully redundant dual-homing arrangement” (Answer 11:22-12:1) would have provided failure protection for Russ’s node or element (Answer 12:3-4). As noted, Russ teaches a non-redundant network in which, in an effort to recover from a detected network fault, a “flooding message” is transmitted to a plurality of nodes (FF 4). The Examiner has not articulated a reason why the person having ordinary skill in the art, possessed of the teachings of Russ, would reach for the Al-Salameh reference to teach a redundant hardware scheme for avoiding difficulties due to a network fault,

given that Russ already teaches a solution to the problem. The Examiner further fails to overcome Appellant's argument that Al-Salameh's fully redundant "dual-homed" network teaches away from Appellant's claimed invention (Reply Br. 2:22–3:4; Specification 2:23–25).

Because Appellant has shown that the Examiner has failed to make out a *prima facie* case of obviousness, we will not sustain the Examiner's rejection of claims 1-19 under 35 U.S.C. § 103(a).

CONCLUSION OF LAW

We conclude that Appellant has shown the Examiner erred in rejecting claims 1-19. On the record before us, claims 1-19 have not been shown to be unpatentable.

DECISION

The Examiner's rejection of claims 1-19 is reversed.

REVERSED

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Joseph B Ryan
Ryan & Mason LLP
90 Forest Avenue
Locust Valley NY 11560